IN THE CLAIMS

Claim 1 (Withdrawn) A light modulation apparatus comprising:

a liquid crystal device; and

a polarizing plate disposed in an optical path of light made incident on said liquid crystal device;

wherein said liquid crystal device is of a guest-host type using a negative type liquid crystal as a host material.

Claim 2 (Withdrawn) A light modulation apparatus according to claim 1, wherein said negative type liquid crystal of said liquid crystal device has a negative type dielectric constant anisotropy and a guest material of said liquid crystal device is a positive or negative type dichroic dye molecular material, and said polarizing plate is movable in or from the optical path.

Claim 3 (Withdrawn) A light modulation apparatus according to claim 2, wherein said polarizing plate is disposed in a movable portion of a mechanical iris, and is movable in or from the optical path by operation of said movable portion of said mechanical iris.

Claim 4 (Withdrawn) A light modulation apparatus according to claim 1, wherein a cell of said liquid crystal device has a gap thickness of 5 μm or less.

Claim 5 (Withdrawn) A light modulation apparatus according to claim 1, wherein an alignment film of said liquid crystal device is rubbed by an anti-parallel rubbing process.

Claim 6 (Previously presented) A light modulation apparatus comprising:

a liquid crystal device;

a drive pulse generation unit for driving said liquid crystal device;

a pulse width control unit for modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device;

a drive circuit unit; and

a control circuit unit,

wherein the modulation of the pulse width of each drive pulse is performed in a manner whereby the waveform of each drive pulse is present in a period of a basic frequency,

each drive pulse whose waveform is present in the period of the basic frequency is generated in synchronization with a clock generated by said drive circuit unit, and

luminance information of the light emerged from said liquid crystal device is fed back to said control circuit unit, and the pulse width of each drive pulse is modulated in synchronization with a clock generated by said drive circuit unit on the basis of a control signal supplied from said control circuit unit.

Claim 7 (Original) A light modulation apparatus according to claim 6, wherein the pulse width of each drive pulse is modulated with its pulse height kept constant.

Claim 8 (Original) A light modulation apparatus according to claim 6, wherein an average per unit time of positive and negative pulse heights of drive pulses applied between drive electrodes of said liquid crystal device upon modulation of the pulse width of each drive pulse is preferably nearly zero.

Claim 9 (Canceled)

Claim 10 (Previously presented) A light modulation apparatus according to claim 6, wherein the basic frequency and the modulated pulse width are adjusted in such a manner as to prevent the occurrence of flicker in stationary drive of said light modulation apparatus.

Claim 11 (Canceled)

Claim 12 (Canceled)

Claim 13 (Original) A light modulation apparatus according to claim 6, wherein said liquid crystal device is a guest-host type liquid crystal device.

Claim 14 (Original) A light modulation apparatus according to claim 13, wherein a host material is a negative or positive type liquid crystal having a negative or positive type dielectric constant anisotropy.

Claim 15 (Original) A light modulation apparatus according to claim 13, wherein a guest material of said liquid crystal device is a positive or negative type dichroic dye molecular material having a positive or negative type light absorption anisotropy.

Claims 16-18 (Canceled)

Claim 19 (Original) A light modulation apparatus according to claim 6, wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion.

Claim 20 (Withdrawn) A light modulation apparatus comprising:

a liquid crystal device; and

a pulse control unit for changing the transmittance of light made incident on said liquid crystal device from a current transmittance into a target transmittance by applying drive pulses controlled with at least two-steps to said liquid crystal device.

Claim 21 (Withdrawn) A light modulation apparatus according to claim 20, wherein a pulse height of each drive pulse is controlled with at least two-steps.

Claim 22 (Withdrawn) A light modulation apparatus according to claim 20, wherein a pulse width of each drive pulse is controlled with at least two-steps.

Claim 23 (Withdrawn) A light modulation apparatus according to claim 20, further comprising a drive circuit unit, wherein the drive pulse is generated in synchronization with a clock generated by said drive circuit unit.

Claim 24 (Withdrawn) A light modulation apparatus according to claim 23, further comprising a control circuit unit, wherein luminance information of the light emerged from said

liquid crystal device is fed back to said control circuit unit, and the drive pulse is generated in synchronization with a clock generated by said drive circuit unit on the basis of a control signal supplied from said control circuit unit.

Claim 25 (Withdrawn) A light modulation apparatus according to claim 20, wherein said liquid crystal device is a guest-host type liquid crystal device.

Claim 26 (Withdrawn) A light modulation apparatus according to claim 25, wherein a host material of said liquid crystal device is a negative or positive type liquid crystal having a negative or positive type dielectric constant anisotropy.

Claim 27 (Withdrawn) A light modulation apparatus according to claim 25, wherein a guest material of said liquid crystal device is a positive or negative type dichroic dye molecular material having a positive or negative type light absorption anisotropy.

Claim 28 (Withdrawn) A light modulation apparatus according to claim 20, further comprising a polarizing plate disposed in an optical path of light made incident on said liquid crystal device.

Claim 29 (Withdrawn) A light modulation apparatus according to claim 28, wherein said polarizing plate is movable in or from the optical path.

Claim 30 (Withdrawn) A light modulation apparatus according to claim 29, wherein said polarizing plate is disposed in a movable portion of a mechanical iris in such a manner as to be movable in or from the optical path by operation of said movable portion of said mechanical iris.

Claim 31 (Withdrawn) A light modulation apparatus according to claim 20, wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion.

Claim 32 (Withdrawn) A light modulation apparatus comprising:

a liquid crystal device;

a detection unit for detecting the intensity of transmission light having passed through said liquid crystal device or an environmental temperature of said liquid crystal device;

a control circuit unit for setting a target intensity of the transmission light depending on the environmental temperature of said liquid crystal device on the basis of a detection value supplied from said detection unit; and

a drive signal generation unit for generating a drive signal used for generating the target intensity of the transmission light.

Claim 33 (Withdrawn) A light modulation apparatus according to claim 32, wherein the transmittance is controlled by monitoring the transmission light, feeding back the detection information to the control circuit unit, and adjusting the intensity of the transmission light at a constant value on the basis of the detection information by said control circuit unit, or by monitoring an environmental temperature of said liquid crystal device, feeding back the detection information to said control circuit unit, comparing the detection information with a predetermined characteristic value, and adjusting the intensity of the transmission light at a constant value on the basis of the compared detection information by said control circuit unit.

Claim 34 (Withdrawn) A light modulation apparatus according to claim 32, wherein said control circuit unit generates each drive pulse having an AC waveform whose pulse height is modulated, or each drive pulse whose pulse width or pulse density is modulated.

Claim 35 (Withdrawn) A light modulation apparatus according to claim 33, wherein the pulse width of each drive pulse having a basic waveform is modulated and the pulse height of the drive pulse is controlled depending on the environmental temperature of said liquid crystal device, or the pulse height of each drive pulse having a basic waveform is modulated and the pulse width of the drive pulse is modulated depending on the environmental temperature of said liquid crystal device.

Claim 36 (Withdrawn) A light modulation apparatus according to claim 32, wherein each drive pulse is generated in synchronization of a clock generated by said drive circuit unit.

Claim 37 (Withdrawn) A light modulation apparatus according to claim 32, wherein said liquid crystal device is a guest-host type liquid crystal device.

Claim 38 (Withdrawn) A light modulation apparatus according to claim 37, wherein a host material is a negative or positive type liquid crystal having a negative or positive type dielectric constant anisotropy.

Claim 39 (Withdrawn) A light modulation apparatus according to claim 37, wherein a guest material of said liquid crystal device is a positive or negative type dichroic dye molecular material having a positive or negative type light absorption anisotropy.

Claim 40 (Withdrawn) A light modulation apparatus according to claim 35, further comprising a polarizing plate disposed in an optical path of light made incident on said liquid crystal device.

Claim 41 (Withdrawn) A light modulation apparatus according to claim 40, wherein said polarizing plate is movable in or from the optical path.

Claim 42 (Withdrawn) A light modulation apparatus according to claim 31, wherein said polarizing plate is disposed in a movable portion of a mechanical iris in such a manner as to be movable in or from the optical path by operation of said movable portion of said mechanical iris.

Claim 43 (Withdrawn) A light modulation apparatus according to claim 32, wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion.

Claim 44 (Withdrawn) An image pickup apparatus comprising:

a light modulation apparatus including a liquid crystal device of a guest-host type using a negative type liquid crystal as a host material, and a polarizing plate disposed in an optical path of light made incident on said liquid crystal device;

wherein said light modulation apparatus is disposed in an optical path of an optical system of said image pickup apparatus.

Claim 45 (Withdrawn) An image pickup apparatus according to claim 44, wherein said negative type liquid crystal of said liquid crystal device has a negative type dielectric constant anisotropy and a guest material of said liquid crystal device is a positive or negative type dichroic dye molecular material, and said polarizing plate is movable in or from the optical path.

Claim 46 (Withdrawn) An image pickup apparatus according to claim 45, wherein said polarizing plate is disposed in a movable portion of a mechanical iris, and is movable in or from the optical path by operation of said movable portion of said mechanical iris.

Claim 47 (Withdrawn) An image pickup apparatus according to claim 44, wherein a cell of said liquid crystal device has a gap thickness of 5 μm or less.

Claim 48 (Withdrawn) An image pickup apparatus according to claim 44, wherein an alignment film of said liquid crystal device is rubbed by an anti-parallel rubbing process.

Claim 49 (Withdrawn) An image pickup apparatus comprising:

a light modulation apparatus including a liquid crystal device, and a pulse control unit for changing the transmittance of light made incident on said liquid crystal device from a current transmittance into a target transmittance by applying drive pulses controlled with at least two-steps to said liquid crystal device;

wherein said light modulation apparatus is disposed in an optical path of an optical system of said image pickup apparatus.

Claim 50 (Withdrawn) An image pickup apparatus according to claim 49, wherein a pulse height of each drive pulse is controlled with at least two-steps.

Claim 51 (Withdrawn) An image pickup apparatus according to claim 49, wherein a pulse width of each drive pulse is controlled with at least two-steps.

Claim 52 (Withdrawn) An image pickup apparatus according to claim 49, further comprising a drive circuit unit, wherein the drive pulse is generated in synchronization with a clock generated by said drive circuit unit.

Claim 53 (Withdrawn) An image pickup apparatus according to claim 52, wherein said drive circuit unit is a drive circuit unit of an image pickup device disposed on a light outgoing side of said light modulation apparatus, and luminance information of the light emerged from said liquid crystal device is fed back to said control circuit unit, and the drive pulse is generated in synchronization with a clock generated by said drive circuit unit on the basis of a control signal supplied from said control circuit unit.

Claim 54 (Withdrawn) An image pickup apparatus according to claim 49, wherein said liquid crystal device is a guest-host type liquid crystal device.

Claim 55 (Withdrawn) An image pickup apparatus according to claim 54, wherein a host material of said liquid crystal device is a negative or positive type liquid crystal having a negative or positive type dielectric constant anisotropy.

Claim 56 (Withdrawn) An image pickup apparatus according to claim 54, wherein a guest material of said liquid crystal device is a positive or negative type dichroic dye molecular material having a positive or negative type light absorption anisotropy.

Claim 57 (Withdrawn) An image pickup apparatus according to claim 49, further comprising a polarizing plate disposed in an optical path of light made incident on said liquid crystal device.

Claim 58 (Withdrawn) An image pickup apparatus according to claim 57, wherein said polarizing plate is movable in or from the optical path.

Claim 59 (Withdrawn) An image pickup apparatus according to claim 58, wherein said polarizing plate is disposed in a movable portion of a mechanical iris in such a manner as to be movable in or from the optical path by operation of said movable portion of said mechanical iris.

Claim 60 (Withdrawn) An image pickup apparatus according to claim 49, wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion.

Claim 61 (Withdrawn) An image pickup apparatus comprising:

a light modulation apparatus including a liquid crystal device, a detection unit for detecting the intensity of transmission light having passed through said liquid crystal device or an environmental temperature of said liquid crystal device, a control circuit unit for setting a target intensity of the transmission light depending on the environmental temperature of said liquid crystal device on the basis of a detection value supplied from said detection unit, and a drive signal generation unit for generating a drive signal used for generating the target intensity of the transmission light;

wherein said light modulation apparatus is disposed in an optical path of an optical system of said image pickup apparatus.

Claim 62 (Withdrawn) An image pickup apparatus according to claim 61, wherein the transmittance is controlled by monitoring the transmission light, feeding back the detection information to the control circuit unit, and adjusting the intensity of the transmission light at a constant value on the basis of the detection information by said control circuit unit, or by monitoring an environmental temperature of said liquid crystal device, feeding back the detection information to said control circuit unit, comparing the detection information with a predetermined characteristic value, and adjusting the intensity of the transmission light at a constant value on the basis of the compared detection information by said control circuit unit.

Claim 63 (Withdrawn) An image pickup apparatus according to claim 61, wherein said control circuit unit generates each drive pulse having an AC waveform whose pulse height is modulated, or each drive pulse whose pulse width or pulse density is modulated.

Claim 64 (Withdrawn) An image pickup apparatus according to claim 62, wherein the pulse width of each drive pulse having a basic waveform is modulated and the pulse height of the drive pulse is controlled depending on the environmental temperature of said liquid crystal

device, or the pulse height of each drive pulse having a basic waveform is modulated and the pulse width of the drive pulse is modulated depending on the environmental temperature of said liquid crystal device.

Claim 65 (Withdrawn) An image pickup apparatus according to claim 61, wherein each drive pulse is generated in synchronization of a clock generated by said drive circuit unit.

Claim 66 (Withdrawn) An image pickup apparatus according to claim 61, wherein said liquid crystal device is a guest-host type liquid crystal device.

Claim 67 (Withdrawn) An image pickup apparatus according to claim 66, wherein a host material of said liquid crystal device is a negative or positive type liquid crystal having a negative or positive type dielectric constant anisotropy.

Claim 68 (Withdrawn) An image pickup apparatus according to claim 66, wherein a guest material of said liquid crystal device is a positive or negative type dichroic dye molecular material having a positive or negative type light absorption anisotropy.

Claim 69 (Withdrawn) An image pickup apparatus according to claim 61, further comprising a polarizing plate disposed in an optical path of light made incident on said liquid crystal device.

Claim 70 (Withdrawn) An image pickup apparatus according to claim 69, wherein said polarizing plate is movable in or from the optical path.

Claim 71 (Withdrawn) An image pickup apparatus according to claim 70, wherein said polarizing plate is disposed in a movable portion of a mechanical iris in such a manner as to be movable in or from the optical path by operation of said movable portion of said mechanical iris.

Claim 72 (Withdrawn) An image pickup apparatus according to claim 61, wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion.

Claim 73 (Canceled)

Claim 74 (Currently amended) An image pickup apparatus comprising:

a light modulation apparatus including a guest-host type liquid crystal device, a drive pulse generation unit for driving said liquid crystal device, and a pulse width control unit for modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device;

wherein said light modulation apparatus is disposed in an optical path of an optical system of said image pickup apparatus; and

wherein the pulse width of each drive pulse is modulated with its pulse height kept constant.

Claim 75 (Currently amended) An image pickup apparatus comprising:

a light modulation apparatus including a guest-host type light crystal device, a drive pulse generation unit for driving said liquid crystal device, and a pulse width control unit for modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device;

wherein said light modulation apparatus is disposed in an optical path of an optical system of said image pickup apparatus; and

wherein an average per unit time of positive and negative pulse heights of drive pulses applied between drive electrodes of said liquid crystal device upon modulation of the pulse width of each drive pulse is preferably nearly zero.

Claim 76 (Currently amended) An image pickup apparatus comprising:

a light modulation apparatus including a guest-host type liquid crystal device, a drive pulse generation unit for driving said liquid crystal device, and a pulse width control unit for modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device;

wherein said light modulation apparatus is disposed in an optical path of an optical system of said image pickup apparatus; and

wherein the modulation of the pulse width of each drive pulse is performed in such a manner that the waveform of each drive pulse is present in a period of a basic frequency.

Claim 77 (Original) An image pickup apparatus according to claim 76, wherein the basic frequency and the modulated pulse width are adjusted in such a manner as to prevent the occurrence of flicker in stationary drive of said light modulation apparatus.

Claim 78 (Original) An image pickup apparatus according to claim 76, further comprising a drive circuit unit, wherein each drive pulse whose waveform is present in the period of the basic frequency is generated in synchronization with a clock generated by said drive circuit unit.

Claim 79 (Original) An image pickup apparatus according to clam 77, further comprising a control circuit unit, wherein luminance information of the light emerged from said liquid crystal device is fed back to said control circuit unit, and the pulse width of each drive pulse is modulated in synchronization with a clock generated by said drive circuit unit on the basis of a control signal supplied from said control circuit unit.

Claim 80 (Previously presented) An image pickup apparatus comprising:

a light modulation apparatus including a liquid crystal device, a drive pulse generation unit for driving said liquid crystal device, and a pulse width control unit for modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device;

wherein said light modulation apparatus is disposed in an optical path of an optical system of said image pickup apparatus; and

wherein said liquid crystal device is a guest-host type liquid crystal device.

Claim 81 An image pickup apparatus according to claim 80, wherein a host material is a negative or positive type liquid crystal having a negative or positive type dielectric constant anisotropy.

Claim 82 (Original) An image pickup apparatus according to claim 80, wherein a guest material of said liquid crystal device is a positive or negative type dichroic dye molecular material having a positive or negative type light absorption anisotropy.

Claim 83 (Previously presented) An image pickup apparatus comprising:

a light modulation apparatus including a liquid crystal device, a drive pulse generation unit for driving said liquid crystal device, and a pulse width control unit for modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device; and

a polarizing plate disposed in an optical path of light made incident on said liquid crystal device;

wherein said light modulation apparatus is disposed in an optical path of an optical system of said image pickup apparatus.

Claim 84 (Currently amended) An image pickup apparatus ~~according to claim 83,~~ comprising:

a light modulation apparatus including a liquid crystal device, a drive pulse generation unit for driving said liquid crystal device, and a pulse width control unit for modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device; and

a polarizing plate disposed in an optical path of light made incident on said liquid crystal device;

wherein said light modulation apparatus is disposed in an optical path of an optical system of said image pickup apparatus, and

wherein said polarizing plate is movable in or from the optical path.

Claim 85 (Original) An image pickup apparatus according to claim 84, wherein said polarizing plate is disposed in a movable portion of a mechanical iris in such a manner as to be movable in or from the optical path by operation of said movable portion of said mechanical iris.

Claim 86 (Canceled)

Claim 87 (Withdrawn) A method of driving a light modulation apparatus including a liquid crystal device, comprising the step of:

changing the transmittance of light made incident on said liquid crystal device from a current transmittance into a target transmittance by applying drive pulses controlled with at least two-steps to said liquid crystal device.

Claim 88 (Withdrawn) A method of driving a light modulation apparatus according to claim 87; wherein a pulse height of each drive pulse is controlled with at least two-steps.

Claim 89 (Withdrawn) A method of driving a light modulation apparatus according to claim 87, wherein a pulse width of each drive pulse is controlled with at least two-steps.

Claim 90 (Withdrawn) A method of driving a light modulation apparatus according to claim 87, wherein the drive pulse is generated in synchronization with a clock generated by a drive circuit unit provided in said light modulation apparatus.

Claim 91 (Withdrawn) A method of driving a light modulation apparatus according to claim 90, wherein luminance information of the light emerged from said liquid crystal device is fed back to a control circuit unit provided in said light modulation apparatus, and the drive pulse is generated in synchronization with a clock generated by said drive circuit unit on the basis of a control signal supplied from said control circuit unit.

Claim 92 (Withdrawn) A method of driving a light modulation apparatus according to claim 87, wherein said liquid crystal device is a guest-host type liquid crystal device.

Claim 93 (Withdrawn) A method of driving a light modulation apparatus according to claim 92, wherein a host material of said liquid crystal device is a negative or positive type liquid crystal having a negative or positive type dielectric constant anisotropy.

Claim 94 (Withdrawn) A method of driving a light modulation apparatus according to claim 92, wherein a guest material of said liquid crystal device is a positive or negative type dichroic dye molecular material having a positive or negative type light absorption anisotropy.

Claim 95 (Withdrawn) A method of driving a light modulation apparatus according to claim 87, wherein a polarizing plate is disposed in an optical path of light made incident on said liquid crystal device.

Claim 96 (Withdrawn) A method of driving a light modulation apparatus according to claim 95, wherein said polarizing plate is movable in or from the optical path.

Claim 97 (Withdrawn) A method of driving a light modulation apparatus according to claim 96, wherein said polarizing plate is disposed in a movable portion of a mechanical iris in such a manner as to be movable in or from the optical path by operation of said movable portion of said mechanical iris.

Claim 98 (Withdrawn) A method of driving a light modulation apparatus according to claim 87, wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion.

Claim 99 (Withdrawn) A method of driving a light modulation apparatus including a liquid crystal device, comprising the steps of:

detecting the intensity of transmission light having passed through said liquid crystal device or an environmental temperature of said liquid crystal device;

setting a target intensity of the transmission light depending on the environmental temperature of said liquid crystal device on the basis of a detection value supplied from said detection unit; and

generating a drive signal used for generating the target intensity of the transmission light.

Claim 100 (Withdrawn) A method of driving a light modulation apparatus according to claim 99, wherein the transmittance is controlled by monitoring the transmission light, feeding back the detection information to the control circuit unit, and adjusting the intensity of the transmission light at a constant value on the basis of the detection information by said control circuit unit, or by monitoring an environmental temperature of said liquid crystal device, feeding back the detection information to said control circuit unit, comparing the detection information

with a predetermined characteristic value, and adjusting the intensity of the transmission light at a constant value on the basis of the compared detection information by said control circuit unit.

Claim 101 (Withdrawn) A method of driving a light modulation apparatus according to claim 99, wherein said control circuit unit generates each drive pulse having an AC waveform whose pulse height is modulated, or each drive pulse whose pulse width or pulse density is modulated.

Claim 102 (Withdrawn) A method of driving a light modulation apparatus according to claim 100, wherein the pulse width of each drive pulse having a basic waveform is modulated and the pulse height of the drive pulse is controlled depending on the environmental temperature of said liquid crystal device, or the pulse height of each drive pulse having a basic waveform is modulated and the pulse width of the drive pulse is modulated depending on the environmental temperature of said liquid crystal device.

Claim 103 (Withdrawn) A method of driving a light modulation apparatus according to claim 99, wherein each drive pulse is generated in synchronization of a clock generated by a drive circuit unit provided in said light modulation apparatus.

Claim 104 (Withdrawn) A method of driving a light modulation apparatus according to claim 99; wherein said liquid crystal device is a guest-host type liquid crystal device.

Claim 105 (Withdrawn) A method of driving a light modulation apparatus according to claim 104, wherein a host material of said liquid crystal device is a negative or positive type liquid crystal having a negative or positive type dielectric constant anisotropy.

Claim 106 (Withdrawn) A method of driving a light modulation apparatus according to claim 104, wherein a guest material of said liquid crystal device is a positive or negative type dichroic dye molecular material having a positive or negative type light absorption anisotropy.

Claim 107 (Withdrawn) A method of driving a light modulation apparatus according to claim 99, wherein a polarizing plate is disposed in an optical path of light made incident on said liquid crystal device.

Claim 108 (Withdrawn) A method of driving a light modulation apparatus according to claim 107, wherein said polarizing plate is movable in or from the optical path.

Claim 109 (Withdrawn) A method of driving a light modulation apparatus according to claim 108, wherein said polarizing plate is disposed in a movable portion of a mechanical iris in such a manner as to be movable in or from the optical path by operation of said movable portion of said mechanical iris.

Claim 110 (Withdrawn) A method of driving a light modulation apparatus according to claim 99, wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion.

Claim 111 (Previously presented) A method of driving a light modulation apparatus including a liquid crystal device, comprising the step of:

modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device,

wherein the modulation of the pulse width of each drive pulse is performed in a manner whereby the waveform of each drive pulse is present in a period of a basic frequency,

each drive pulse whose waveform is present in the period of the basic frequency is generated in synchronization with a clock generated by a drive circuit unit provided in said light modulation apparatus, and

luminance information of the light emerged from said liquid crystal device is fed back to a control circuit unit provided in said light modulation apparatus, and the pulse width of each drive pulse is modulated in synchronization with a clock generated by said drive circuit unit on the basis of a control signal supplied from said control circuit unit.

Claim 112 (Original) A method of driving a light modulation apparatus according to claim 111, wherein the pulse width of each drive pulse is modulated with its pulse height kept constant.

Claim 113 (Original) A method of driving a light modulation apparatus according to claim 111, wherein an average per unit time of positive and negative pulse heights of drive pulses applied between drive electrodes of said liquid crystal device upon modulation of the pulse width of each drive pulse is preferably nearly zero.

Claim 114 (Canceled)

Claim 115 (Previously presented) A method of driving a light modulation apparatus according to claim 111, wherein the basic frequency and the modulated pulse width adjusted in such a manner as to prevent the occurrence of flicker in stationary drive of said light modulation apparatus.

Claim 116 (Canceled)

Claim 117 (Canceled)

Claim 118 (Original) A method of driving a light modulation apparatus according to claim 111, wherein said liquid crystal device is a guest-host type liquid crystal device.

Claim 119 (Original) A method of driving a light modulation apparatus according to claim 118, wherein a host material of said liquid crystal device is a negative or positive type liquid crystal having a negative or positive type dielectric constant anisotropy.

Claim 120 (Original) A method of driving a light modulation apparatus according to claim 118, wherein a guest material of said liquid crystal device is a positive or negative type dichroic dye molecular material having a positive or negative type light absorption anisotropy.

Claims 121-123 (Canceled)

Claim 124 (Original) A method of driving a light modulation apparatus according to claim 111, wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion.

Claim 125 (Withdrawn) A method of driving an image pickup apparatus in which a liquid crystal device is disposed in an optical path of an optical system of said image pickup apparatus, comprising the step of:

changing the transmittance of light made incident on said liquid crystal device from a current transmittance into a target transmittance by applying drive pulses controlled with at least two-steps to said liquid crystal device.

Claim 126 (Withdrawn) A method of driving an image pickup apparatus according to claim 125, wherein a pulse height of each drive pulse is controlled with at least two-steps.

Claim 127 (Withdrawn) A method of driving an image pickup apparatus according to claim 125, wherein a pulse width of each drive pulse is controlled with at least two-steps.

Claim 128 (Withdrawn) A method of driving an image pickup apparatus according to claim 125, wherein the drive pulse is generated in synchronization with a clock generated by a drive circuit unit provided in said light modulation apparatus.

Claim 129 (Withdrawn) A method of driving an image pickup apparatus according to claim 125, wherein a drive circuit unit of an image pickup device is disposed on a light outgoing side of said light modulation apparatus; and luminance information of the light emerged from said liquid crystal device is fed back to a control circuit unit provided in said light modulation apparatus, and the drive pulse is generated in synchronization with a clock generated by said drive circuit unit on the basis of a control signal supplied from said control circuit unit.

Claim 130 (Withdrawn) A method of driving an image pickup apparatus according to claim 125, wherein said liquid crystal device is a guest-host type liquid crystal device.

Claim 131 (Withdrawn) A method of driving an image pickup apparatus according to claim 130, wherein a host material of said liquid crystal device is a negative or positive type liquid crystal having a negative or positive type dielectric constant anisotropy.

Claim 132 (Withdrawn) A method of driving an image pickup apparatus according to claim 130, wherein a guest material of said liquid crystal device is a positive or negative type dichroic dye molecular material having a positive or negative type light absorption anisotropy.

Claim 133 (Withdrawn) A method of driving an image pickup apparatus according to claim 125, wherein a polarizing plate is disposed in an optical path of light made incident on said liquid crystal device.

Claim 134 (Withdrawn) A method of driving an image pickup apparatus according to claim 133, wherein said polarizing plate is movable in or from the optical path.

Claim 135 (Withdrawn) A method of driving an image pickup apparatus according to claim 134, wherein said polarizing plate is disposed in a movable portion of a mechanical iris in such a manner as to be movable in or from the optical path by operation of said movable portion of said mechanical iris.

Claim 136 (Withdrawn) A method of driving an image pickup apparatus according to claim 125, wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion.

Claim 137 (Withdrawn) A method of driving an image pickup apparatus in which a liquid crystal device is disposed in an optical path of an optical system of said image pickup apparatus, comprising the steps of:

detecting the intensity of transmission light having passed through said liquid crystal device or an environmental temperature of said liquid crystal device;

setting a target intensity of the transmission light depending on the environmental temperature of said liquid crystal device on the basis of a detection value supplied from said detection unit; and

generating a drive signal used for generating the target intensity of the transmission light.

Claim 138 (Withdrawn) A method of driving an image pickup apparatus according to claim 137, wherein the transmittance is controlled by monitoring the transmission light, feeding back the detection information to the control circuit unit, and adjusting the intensity of the transmission light at a constant value on the basis of the detection information by said control circuit unit, or by monitoring an environmental temperature of said liquid crystal device, feeding back the detection information to said control circuit unit, comparing the detection information with a predetermined characteristic value, and adjusting the intensity of the transmission light at a constant value on the basis of the compared detection information by said control circuit unit.

Claim 139 (Withdrawn) A method of driving an image pickup apparatus according to claim 137, wherein said control circuit unit generates each drive pulse having an AC waveform whose pulse height is modulated, or each drive pulse whose pulse width or pulse density is modulated.

Claim 140 (Withdrawn) A method of driving an image pickup apparatus according to claim 138, wherein the pulse width of each drive pulse having a basic waveform is modulated and the pulse height of the drive pulse is controlled depending on, the environmental temperature of said liquid crystal device, or the pulse height of each drive pulse having a basic waveform is modulated and the pulse width of the drive pulse is modulated depending on the environmental temperature of said liquid crystal device.

Claim 141 (Withdrawn) A method of driving an image pickup apparatus according to claim 137, wherein each drive pulse is generated in synchronization of a clock generated by a drive circuit unit provided in said light modulation apparatus.

Claim 142 (Withdrawn) A method of driving an image pickup apparatus according to claim 137, wherein said liquid crystal device is a guest-host type liquid crystal device.

Claim 143 (Withdrawn) A method of driving an image pickup apparatus according to claim 142, wherein a host material of said liquid crystal device is a negative or positive type liquid crystal having a negative or positive type dielectric constant anisotropy:

Claim 144 (Withdrawn) A method of driving an image pickup apparatus according to claim 142, wherein a guest material of said liquid crystal device is a positive or negative type dichroic dye molecular material having a positive or negative type light absorption anisotropy.

Claim 145 (Withdrawn) A method of driving an image pickup apparatus according to claim 137, wherein a polarizing plate is disposed in an optical path of light made incident on said liquid crystal device.

Claim 146 (Withdrawn) A method of driving an image pickup apparatus according to claim 137, wherein said polarizing plate is movable in or from the optical path.

Claim 147 (Withdrawn) A method of driving an image pickup apparatus according to claim 146, wherein said polarizing plate is disposed in a movable portion of a mechanical iris in w such a manner as to be movable in or from the optical path by operation of said movable portion of said mechanical iris.

Claim 148 (Withdrawn) A method of driving an image pickup apparatus according to claim 137, wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion.

Claim 149 (Canceled)

Claim 150 (Currently amended) A method of driving an image pickup apparatus in which a guest-host type liquid crystal device is disposed in an optical path of an optical system of said image pickup apparatus, comprising the step of:

modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device;

wherein the pulse width of each drive pulse is modulated with its pulse height kept constant.

Claim 151 (Currently amended) A method of driving an image pickup apparatus in which a guest-host type liquid crystal device is disposed in an optical path of an optical system of said image pickup apparatus, comprising the step of:

modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device;

wherein an average per unit time of positive and negative pulse heights of drive pulses applied between drive electrodes of said liquid crystal device upon modulation of the pulse width of each drive pulse is preferably nearly zero.

Claim 152 (Currently amended) A method of driving an image pickup apparatus in which a guest-host type liquid crystal device is disposed in an optical path of an optical system of said image pickup apparatus, comprising the step of:

modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device;

wherein the modulation of the pulse width of each drive pulse is performed in such a manner that the waveform of each drive pulse is present in a period of a basic frequency.

Claim 153 (Original) A method of driving an image pickup apparatus according to claim 152, wherein the basic frequency and the modulated pulse width are adjusted in such a manner as to prevent the occurrence of flicker in stationary drive of said light modulation apparatus.

Claim 154 (Original) A method of driving an image pickup apparatus according to claim 152, wherein each drive pulse whose waveform is present in the period of the basic frequency

is generated in synchronization with a clock generated by a drive circuit unit provided in said light modulation apparatus.

Claim 155 (Previously presented) A method of driving an image pickup apparatus in which a liquid crystal device is disposed in an optical path of an optical system of said image pickup apparatus, comprising the step of:

modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device;

wherein luminance information of the light emerged from said liquid crystal device is fed back to a control circuit unit provided in said light modulation apparatus, and the pulse width of each drive pulse is modulated in synchronization with a clock generated by said drive circuit unit on the basis of a control signal supplied from said control circuit unit.

Claim 156 (Previously presented) A method of driving an image pickup apparatus in which a liquid crystal device is disposed in an optical path of an optical system of said image pickup apparatus, comprising the step of:

modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device;

wherein said liquid crystal device is a guest-host type liquid crystal device.

Claim 157 (Original) A method of driving an image pickup apparatus according to claim 149, wherein the modulation of the pulse width of each drive pulse is performed in such a manner that the waveform of each drive pulse is present in a period of a basic frequency.

Claim 158 (Original) A method of driving an image pickup apparatus according to claim 152, wherein the basic frequency and the modulated pulse width are adjusted in such a manner as to prevent the occurrence of flicker in stationary drive of said light modulation apparatus.

Claim 159 (Previously presented) A method of driving an image pickup apparatus in which a liquid crystal device is disposed in an optical path of an optical system of said image pickup apparatus, comprising the step of:

modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device;

wherein a polarizing plate is disposed in an optical path of light made incident on said liquid crystal device.

Claim 160 (Original) A method of driving an image pickup apparatus according to claim 159, wherein said polarizing plate is movable in or from the optical path.

Claim 161 (Original) A method of driving an image pickup apparatus according to claim 160, wherein said polarizing plate is disposed in a movable portion of a mechanical iris in such a manner as to be movable in or from the optical path by operation of said movable portion of said mechanical iris.

Claim 162 (Currently amended) A method of driving an image pickup apparatus in which a guest-host type liquid crystal device is disposed in an optical path of an optical system of said image pickup apparatus, comprising the step of:

modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device;

wherein a drive electrode of said liquid crystal device is formed at least over the entire region of an effective light transmission portion.

Claim 163 (Previously presented) A light modulation apparatus comprising:

a liquid crystal device;

a drive pulse generation unit for driving said liquid crystal device;

a pulse width control unit for modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device; and

a polarizing plate disposed in an optical path of light made incident on said liquid crystal device,

wherein said polarizing plate is movable in or from the optical path, and

said polarizing plate is disposed in a movable portion of a mechanical iris in a manner whereby it is movable in or from the optical path by operation of said movable portion of said mechanical iris.

Claim 164 (Previously presented) A method of driving a light modulation apparatus including a liquid crystal device, comprising the step of:

modulating a pulse width of each drive pulse to be applied to said liquid crystal device, thereby controlling a transmittance of light made incident on said liquid crystal device,

wherein a polarizing plate is disposed in an optical path of light made incident on said liquid crystal device,

said polarizing plate is movable in or from the optical path, and

said polarizing plate is disposed in a movable portion of a mechanical iris in a manner whereby it is movable in or from the optical path by operation of said movable portion of said mechanical iris.